

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OPERABLE UNIT 3-14 TANK FARM SOIL AND GROUNDWATER REMEDIAL INVESTIGATION/
FEASIBILITY STUDY WORK PLAN (DRAFT FINAL); DOE/ID-10676, REV. D, NOV 2000

DATE: November 2000 **REVIEWER:** IDEO

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
GENERAL COMMENTS				
1			The responses to the following comments indicated that revised text was added to the document. Please identify where the revised text was placed so that we can complete our review: Comment #'s 27, 47, 48, 68, and 71.	Responses to these draft comments, plus #6 and #50, are provided immediately below, before the rest of the draft final comments, and are set in a different font, to distinguish them from the rest of the draft final comments and responses.
Draft Comment #6	Section 1.3, Tank Farm Soils, General Comment	Pages 1-12 through 1-13	We suggest that a discussion of uncertainties be added to this section. Due to the number of times the Tank Farm has undergone "significant" excavation events throughout its history, and coupled with the multiple times the excavated soils have been "handled," (i.e., excavated, stockpiled, mixed/remixed, backfilled and compacted) use of the term "characterized" should be qualified. For instance, Table 1-1 provides concise summaries of the various historical releases/leaks that are currently known. In many instances, when the spills/leaks were excavated (when they were documented), the source of the backfilled material was not identified nor was any description of the material given in the remedial records. Given this scenario, and multiplied by an unknown number of similar occurrences within the Tank Farm footprint, any general characterization statement made in a given location may only be representative of that particular parcel and not necessarily representative of an adjacent tract of soil ten feet away. This uncertainty will be factored into any risk management decisions made for this site.	Please see discussion of statistical validity of the number of boreholes in Sec. 4.6.1.2. The statistical analysis is based on any probehole intercepting any source of equivalent size, i.e., 3 inches in diameter, and as such addresses exploring for contamination that exists in Tank Farm soil at the time of the field work.

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Draft Comment #27	Section 4.1.2, Second Bullet, (4.3.1 Phase II, 2 nd bullet)	Page 4-8	Bullet 2 describes the necessity of obtaining soil distribution coefficients (Kd's) for the COPCs. After review of the "stockpot" of native soils, imported backfill soils, and the checkerboard footprint of historical, anthropogenic activities within the Tank Farm Area, it is not clear to what extent the work plan addresses the representativeness of the soil samples for Kd evaluation. Please address this in the text.	Per the resolution language, the evaluation of the necessity of acquiring site-specific soil Kds (soil distribution coefficients) will be addressed in the Contaminant Transport Study Work Plan, scheduled for submittal to the Agencies January 7, 2003 (Table 6-1 in the Work plan).
Draft Comment #47	Appendix G, Section G-1		It is unclear whether the supervisor's daily logs, occurrence reports, and published reports were used to identify sampling locations. As they provide valuable information on encountered releases, these documents should be used to help guide the Phase I effort.	Section G-1 has been revised to include this text: "The supervisor's daily logs, occurrence reports, and published reports were used to aid in documenting the historical information compiled in Section 3 of the work plan. This information was derived from the Track 1 and the Track 2 studies. The information fed the RI/BRA, 3-13 RI/FS and the 3-13 ROD. In turn, that information was used not only to guide the Phase I sampling and logging effort, but also aided in the determination that further characterization was needed due to the lack of specific information about each site."

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Draft Comment #48	Appendix G (now Attachment A), Tank Farm Soil FSP, Section 1.1, Bullets 4, 5, and 6	Page 1	The references bullets are identified as objectives of this FSP, but do not appear to be discussed in the plan. Please provide some discussion regarding these objectives.	This sentence has been added: "The material from the vacuum excavating will be stored as archive material to be used for the Contaminant Transport Study, treatability studies, and other future studies."
Draft Comment #50	Appendix G (now Attachment A), Tank Farm Soil FSP, Section 3.2, General Comment	Page 28	This section should identify and discuss the limitations associated with the downhole radiation logging. Specifically, discuss the expected depth into the sidewall of the boring before self-shielding of the material occurs. It is important to acknowledge the uncertainties associated with the proposed screening method.	<p>This response has been incorporated into the FSP text:</p> <p>"The principal limitations of the planned downhole logging program are as follows:</p> <p>The planned logging system will not have sufficient gamma-ray energy resolution for detailed radionuclide speciation. While gamma-radiation hot spots can be detected, the causative radionuclides cannot be determined.</p> <p>The logging tool has a finite depth of investigation due to the fact that gamma-rays are attenuated by the soil media and casing surrounding the probehole. For Cs-137, the depth of investigation is on the order of 1 foot from the center of the logging detector. This limitation is a significant problem primarily when the radionuclide distribution is highly discontinuous, since abrupt changes in concentration would not be detected if they occur just beyond the</p>

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				<p>investigation zone. At the Tank Farm, it is reasonable to assume that radionuclides exist as broad soil plumes with concentrations that vary smoothly from a central hot spot to a background fringe. In this case, distributions may be accurately interpolated between probeholes. However, the exact location of the hot spot and fringe will be subject to uncertainty proportional to the probe spacing.</p> <p>Low energy gamma-rays, e.g. from Am-241 or Pu-239, will be greatly attenuated by the probe casing. Thus, the presence of low energy gamma emitters will generally not be recognized unless they are co-located with higher energy gamma emitters such as Cs-137. Historical records for INTEC suggest that Cs-137 was universally present in Tank Farm waste streams, which accounts for its utility as an indicator contaminant. Differential movement of radionuclides by fluid and/or vapor transport could cause some separation of constituents that cannot be distinguished by Phase I logging.</p> <p>Beta emitters such as Sr-90 cannot be detected by the radiation logging system and can only be evaluated based on historical information concerning the original waste streams. Sr-90 evaluation will be particularly difficult due to its solubility and tendency to move in the subsurface relative to Cs-137. "(NJ)</p>

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Draft Comment #68	Appendix G (now Attachment F), Phase I Waste Management Plan, Section 2.3, Fifth Paragraph, Third Sentence	Page 4	The referenced text states that the excavated soil will be contained within a closed loop system to reduce the risk of an air release. Please describe how this will be accomplished (e.g., an air filtration device on the drum to capture and filter the displaced air volume, disposal of any baghouse bags, etc.).	The sampling requirements to achieve the field-related objectives in the Phase I Tank Farm FSP are identified in the Work Plan. Several issues need to be refined with respect to worker exposure and air releases during sampling. These refinements, which may include the physical shielding and containment specifications for the soil vacuum extraction activity, will be made during a cold test demonstration. If it is necessary to modify the sampling objectives due to the cold test demonstration, the Agencies will be notified and concurrence received prior to proceeding.
Draft Comment #71	Appendix G (now Attachment A), Phase I Waste Management Plan, Section 4, Pages 8 through 9, last sentence; and Table 4-1	Pages 10 through 11	Please note that the hazardous waste determination must address listed waste codes, as well as characteristic wastes. Note that some of the determinations, such as the presence of listed waste in the aquifer associated with the CPP-03 (a.k.a. CPP-23) injection well, have already been established in correspondence provided to IDEQ from USDOE.	The comment resolution language responding to Comment 71 is found in Section 4 (first paragraph), and potential waste classifications are provided in Table 3-1.

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2	Section 4.4.1.6, <i>Develop a Decision Rule, DR-2b</i>		<p><u>Response to Comment 33(a)</u></p> <p>The response indicates that this comment was <i>accepted</i>, but there does not appear to be any change to the referenced text. Please explain.</p> <p>The draft comment #33 (a) was:</p> <p>It is unclear why selected CLP metals are the only non-radionuclide contaminants identified. Other hazardous contaminants such as VOCs and SVOCs would be expected based on process knowledge (particularly in the > 5 foot depth.)</p>	<p>The OU 3-13 RI/BRA evaluated the COPCs from the Tank Farm sites (i.e., OU 3-07 and OU 3-08). This evaluation determined that only certain CLP metals were the only non-radioactive contaminants that are COPCs.</p> <p>As discussed during the Agency call, it was agreed to include the original COPCs identified from the OU 3-07 and OU 3-08 Track 2 investigations in the Nature and Extent section of the Work Plan. These contaminants will be addressed during the Phase II Characterization Work Plan.</p>
3	Section 3.1.2	Page 3-30, Figure 3-8	It appears that the colorized labels for CPP-61 and CPP-81 have been switched on the figure.	Corrected.(lh)
4	Section 4.1.2	Page4-2, Fourth Bullet,	As stated previously in Comment # 10 in our review of the draft version of this document, all piping is considered ancillary equipment to the tank farm system and will be addressed during closure pursuant to HWMA. Since IDEQ has not yet received or reviewed the first partial closure plan for the tank farm, it is premature to speculate on the end state of the HWMA closure and/or any required post closure care. IDEQ does not, at this time, concur with USDOE's intended assumption proposing to divide responsibilities between HWMA and CERCLA for buried pipes.	Comment noted.

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5	Section 4.1.3,	Page 4-3, Sixth Sentence	<p>This sentence requires clarification. It is incorrect to state that “<i>pump stations, injection wells, and treatment units . . . can be managed within this AOC without triggering land disposal regulations.</i>” The CERCLA Area of Contamination (AOC) concept is intended to allow movement and consolidation of remediation wastes within the areal extent of contamination to facilitate clean up. The concept applies to remediation wastes, not to treatment and/or disposal units. In fact, land disposal restrictions (LDRs) <u>are triggered by placement</u> once these wastes enter a treatment unit, even if the treatment unit is located within the AOC. The AOC for a site is usually defined in a Record of Decision or other post-ROD document, after the extent of contamination has been determined and a remedial alternative selected. The Agencies have not yet determined an Area of Contamination for OU 3-14. Therefore, we disagree with the statement that “<i>for the purposes of initial alternative comparison in the OU 3-14 RI/FS, the OU 3-13 ROD isopleth approach will be used.</i>” Note that the OU 3-13 AOC boundary was largely defined by windblown contamination from site CPP-95. The extent of the CPP-95 wind-blown contamination does not apply to the OU 3-14 sites. However, the OU 3-13 ROD and subsequent post-ROD design documents allow for investigation-derived wastes from OU 3-14 to be managed in accordance with the OU 3-13 remedy utilizing the Staging, Storage, and Stabilization Treatment Facility and the INEEL CERCLA Disposal Facility. The OU 3-14 Waste Management Plan should state that OU 3-14 IDW will be sent to the SSA, for eventual treatment (if necessary) and disposal within the ICDF (if it meets the ICDF WAC).</p>	<p>Sections 11.1 and 12.2 of the final ROD for WAG 3-13 have addressed the issue of the WAG 3 AOC and placement. Section 11.1 of the ROD establishes that the WAG 3 AOC (Figure 1-10 of the ROD) will be the CERCLA AOC. Section 12.2 of the ROD addresses placement and applicability of LDRs for OU 3-14 IDW. Because Agency concurrence on this issue was not received, the work plan was revised to clarify the management of IDW by adding Section 4.1.3, Investigation-Derived Waste Management. This brief discussion references sections 11.1 and 12.2 of the ROD to assist in the management of IDW.</p>

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6	Section 4.4.1.1	Table 4-1, Page 4-22	The OU 3-14 remedial investigation (and DQO table) should acknowledge VOCs and SVOCs as COPCs at Site CPP-15 ONLY . The Phase II Characterization Work Plan can discuss the limitations of sampling for these constituents. There was insufficient information generated by the OU 3-13 Remedial Investigation to eliminate these contaminants as COPCs for this site.	<p>The OU 3-14 RI/FS WP will include the appropriate COPCs for the release site CPP-15 using the OU 3-087 Track 2 list.</p> <p>VOCs and SVOCs will not be sampled for at CPP-15. These compounds were identified as COPCs during previous Track 1 or Track 2 investigations, but were screened out as not being a risk concern. As stated in the site evaluation table for Area CPP-15 in the Final Track 2 Summary Report for Operable Unit 3-08, "It is known that all radioactively contaminated soil was removed below the solvent tank. Since there was only a possibility for a small amount to have been released to the subsurface and there was no infiltration, due to the building, that should have caused migration, the VOCs would have been removed in association with the radionuclides. Any VOCs which could possibly have remained are not expected to be present due to biodegradation and volatilization of contaminants over the 18 year period since the time of release."</p> <p>This discussion will be included in the Work Plan and the concern for VOC and SVOC contamination will be addressed as part of the Phase II Characterization Work Plan. Given the sampling technique for Phase I (e.g., vacuum extraction), it is not possible to collect representative samples for organic analyses.</p>

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7	Section 4.4.1.7	Page 4-21 and Table 4-1, Last Column, Page 4-24	<p>The referenced text is inconsistent with comment resolutions discussed among the Agencies for previous comment # 32 on the draft version, and the revised text found on pages 4-18 and 4-19 of this document. Specifically, it was our understanding that the Remediation Stages I through IV referred to OU 3-14 post-ROD clean-up activities that are presumed to occur. However, the referenced text states that “<i>it is envisioned that four remediation stages will occur while the OU 3-14 Tank Farm Field Investigation Phases I and II are occurring.</i>” The schedule presented in Section 6 indicates that the OU 3-14 ROD is expected to be finalized in the Fall of 2007, whereas Phase I activities will occur in 2001 and Phase II work is planned to occur in 2004. A RI/FS Work Plan can not be used to identify a remediation activity for a site. Remedial alternatives must be presented for public comment in a Proposed Plan, followed by formal remedy selection in a Record of Decision. Therefore, what is identified on Page 4-21 as <i>Remediation Stages I and II</i> should be re-named <i>Characterization Stages I and II</i> because they do not represent any remediation work conducted under operable unit 3-14. The text can state, if desired, that the OU 3-13 Group 1 interim action will be minimizing infiltration at the tank farm, and the OU 3-13 Group 4 remedy will be collecting moisture monitoring data near the Tank Farm during this stage. Any efforts to “<i>address immediate threats</i>” prior to completion of the OU 3-14 remedy selection process (which includes preparation of the Proposed Plan and ROD) would be conducted as a Removal Action or a USDOE maintenance action.</p>	These Stages I through IV do refer to post-ROD activities and the text has been revised.

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8	Section 4.4.2.1	Page 4-25, Background Summary, Third Paragraph; and Table 4-2, Page 4-34	Based on information provided to IDEQ by USDOE in March, 2000 (Attachment 1), it is also known that waste water discharged to the CPP-23 (a.k.a CPP-03) injection well was contaminated with listed hazardous waste, resulting in contaminating the aquifer with 4 waste codes and 9 constituents. Therefore, these hazardous compounds should be identified as COPCs for the OU 3-14 remedial investigation. Identifying a complete list of OU 3-14 COPCs in the DQO process will support the agreed-upon sampling strategy, which includes analyses for organic contaminants.	<u>The second paragraph in Section 2.2 of the Injection Well Field Sampling Plan, and in Section 4.4.2.1 in the Work Plan has been replaced with the following text:</u> The Track 2 Summary Report for CPP-23 CPP Injection Well (1994), Comprehensive RI/FS for OU 3-13 at the INEEL – Part A, RI/BRA Report (DOE-ID 1997) and the OU 3-13 Record of Decision (DOE-ID 1999) identified several contaminants that may have been discharged to the injection well. Based on these reports, the contaminants of potential concern (COPCs) for the injection well include I-129, Sr-90, Pu-isotopes, H-3, Am-241, Tc-99, Cs-137, Co-60, Eu-152/-154, arsenic, chromium, mercury, nitrate/nitrite, and osmium. In addition, the injection well has completed RCRA closure as described in the Final Closure Plan for LDU CPP-23 Injection Well (MAH-FE-PL-304) (DOE-ID 1990). In section 2.1 of this closure plan, it states that “The only known contaminant release to the well identified as a RCRA concern is the mercury release which occurred in March 1981”. As part of the closure effort, a sediment sample was collected from the injection well by the USGS on August 31, 1989 and analyzed for 40 CFR 261 Appendix VIII hazardous

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				<p>constituents, for which EPA-approved methods exist. Analyses of the sediment sample detected traces of metals, radioactivity, and PCBs. No organic compounds, other than PCBs, were detected in the sediment sample from the injection well. The closure plan also required the collection and Appendix VIII analysis of groundwater samples from the adjacent wells (USGS-40 and USGS-47) and the production well (Production Well #1). These results also did not detect organic compounds in the groundwater.</p> <p>Based upon these results, it appears that the COPCs for the injection well consist of radionuclides, metals, and PCBs. For completeness and to address possible uncertainties, the sediments from the injection well will also be sampled for the nine listed waste constituents previously identified at INTEC (benzene, carbon disulfide, carbon tetrachloride, hydrogen fluoride, pyridine, tetrachloroethylene, toluene, 1,1,1-trichloroethane, and trichloroethylene). In addition, the following constituents (acetone, cyclohexane, cyclohexanone, ethyl acetate, methanol, methyl isobutyl ketone, and xylene) were identified to be present in INTEC waste streams (INEEL/EXT-98-01212, Revision 1, February 1999) and will be sampled.</p>

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9	<u>Section 4.4.2</u>	<u>Table 4-2,</u> <u>Pages 4-34</u> <u>through</u> <u>4-35</u>	<p>a) Column 1, Problem Statement, Last Sentence: This sentence has been edited to the point that it is no longer a complete sentence, nor does it support the first sentence of the problem statement. IDEQ suggests that the words <i>"Second, there is uncertainty resulting from contaminant"</i>, which were included in the draft version, be restored here.</p> <p>b) Column 2, PSQ-5: The last sentence is incomplete.</p> <p>c) Column 3, PSQ-2c, Alternative Action B, Parenthetical: IDEQ suggests that <i>"stop contaminant mobility"</i> be replaced by <i>"minimize contaminant mobility."</i></p> <p>d) Column 5, Inputs to PSQ-2a: Please replace <i>"downgrade"</i> with <i>"downhole."</i></p> <p>e) Column 5, Inputs to PSQ-5: USDOE's decision to globally replace the word <i>"sludge"</i> with <i>"sediment"</i> has resulted in redundancy in this list.</p> <p>f) Column 6, Operational Boundaries: The reference to staged remediation of tank farm soil does not appear relevant to the CPP-23 RI activities.</p> <p>g) Column 6, Treatment Evaluation Boundaries: We are uncertain what is meant by <i>"It may also be impacted by the of the treatment."</i> Please clarify.</p> <p>Column 9, Optimize the Design, Page 4-35: The DQO table should specify the types of analyses that will be conducted on the OU 3-14 samples, rather than just referring to FSP for this information.</p>	<p>a. Restored as suggested (lh)</p> <p>b. Last sentence deleted, and remaining sentence revised to read "Based upon new data obtained during the evaluation of the injection well, sediment in the well, and contaminated aquifer materials near the well, will remedial action be required and what are the best remedial approaches? (lh)</p> <p>c. Revised as suggested. (lh)</p> <p>d. Revised as suggested. (lh)</p> <p>e. Corrected. (lh)</p> <p>f. Text has been clarified.</p> <p>g. The word "implementability" has been inserted.</p> <p>Comment noted.</p>

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10	Section 6.1	Pages 6-1 through 6-4, Activities and Deliverables	<p>a) The Phase II Characterization work plan represents a second phase of remedial investigation characterization effort, and as such, should be a primary document with an enforceable submittal deadline and a 45 day review period.</p> <p>h) In accordance with the FFA/CO and Action Plan, the June 30, 2006 submittal should be a draft Remedial Investigation/Feasibility Study Report. The results of the remedial investigation and risk assessment should be evaluated in a primary document.</p>	<p>a. Agreed, text has been modified accordingly.</p> <p>h. Agreed, text has been modified accordingly.</p>
11	Attachment A	Tank Farm Soil Sampling FSP, Section 4	<p>The text should be expanded to discuss the rationale for the proposed new probehole sampling locations, particularly those located in known contamination sites.</p> <p>a) For example, comparing Figures 4-1 and 4-2, some of the proposed probehole locations for Site CPP-31 appear to be located in almost the same locations as the boreholes from the previous survey; the text should present the reasons that these locations need to be re-characterized.</p> <p>b) Likewise, text provides no explanation as to why some of the proposed probe locations within a contaminated area are deemed critical and others are not (Figure 4-4).</p> <p>c) In addition, it is unclear why the four proposed probeholes at site CPP-58 and the two proposed locations at Site 15 are not considered critical, since Figure 4-1 suggests that these sites were not included in the prior gamma survey.</p> <p>b) Some piping southeast of the Tank Farm fence is identified on Figure 4-2 as having "contamination risk," and four</p>	<p>a. The probe strategy was developed to provide full coverage of the tank farm and release sites. It assumed no existing probes are available. The text in Section 4.4 has been revised to indicate that if an existing probe is viable for the purposes of this investigation, a new probe will not be installed in that location.</p> <p>b. The text in Section 3.3.4 has been expanded to include the rationale as to why probe locations were determined critical.</p> <p>c. These probe locations were made critical. See revised Section 3.3.4.</p> <p>b. The piping in question was identified by tank farm personnel from operational knowledge. The systematic gridded probehole pattern and location density was deemed sufficient to characterize the infrastructure</p>

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			proboholes are proposed adjacent to the pipes. The text should describe why that particular stretch of pipe is assumed contaminated, and why it is apparently the only section of piping within the area of the figure that s thought to have contamination risk..	area within the Tank Farm fence line not associated with known releases. However, these pipes occur outside the Tank Farm perimeter fence and are typically used during waste transfer. For completeness, it was determined to investigate for possible contamination from these waste transfer lines.
12	Attachment B	Injection well FSP, Section 4.1.1, Page 4-1, Paragraph 1	It seems feasible, given the information presented, that the initial borehole (36" diameter) could miss or partially miss the original injection well such that the drilling/coring would not be centered as needed to proceed. Please clarify that as-builts for the injection well vault are adequate to ensure that the 36" diameter hole will hit the original injection well and that a second attempt or different approach is not needed to enter the original injection well.	Text has been revised to state "Current staff are available for consultation who were present when the injection well vault was cemented. Further attempts to locate the injection well casing with the 36-inch diameter drill bit are considered unlikely, but will be considered if necessary.""
13	Attachment B	Injection well FSP, Section 4.2, Page 4-7, Paragraph 8	a) The second sentence states "Install 61.0 m (200 ft) of 15.2-cm (6-in.) schedule 40, flush-threaded, wire-wrapped stainless steel screen casing from 182.9 to 140.2 m (600 to 460 ft)." The numbers do not match (200 ft versus 140 ft). Also, a 200 ft section of screen could be excessive for obtaining samples from a discrete vertical section (e.g., it will allow for intermingling of ground waters from below, within, and above the HI interbed). Conceptually, because the injection well had a history of failure and accumulation of sludge in the well (and probably formation), it can be assumed that the injection horizon became shallower with time. Potential contaminants would have been injected at a greater rate at the shallower injection horizon because of this	Text changes discussed with the Agencies during the 12/5 teleconference call have been incorporated into the document. Concurrence on the approach was achieved during this call.

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			sludge build-up. Consideration should be given to use of alternating sections of casing between lengths of screen. For instance, 20 ft sections of screen could be separated by 20 ft sections of casing. The screened sections would be gravel packed and the casing sections would be sealed using grout and/or bentonite. This approach would allow the use of a packer assembly so that discrete samples could be collected from the screened sections. This or other multiple completion construction strategies should be considered and discussed with the agencies to enable the greatest level of characterization possible from the limited number of wells what will be drilled.	
14	Attachment B	Injection Well FSP, Section 5.3.5.2, Page 5-7	<p>a) We recommend that the text better explain that this section applies to potential opportunities to sample perched water in the CPP-23 injection well as drilling proceeds. Re-naming the section title to <i>Opportunistic Perched Water Sample Prioritization</i> would be helpful. As is, the title causes confusion because for the majority of groundwater sampling associated with this FSP (i.e., MON-A-173 and MON-A-174) there should be a sufficient volume of sample to meet all of the analytical needs; these aquifer wells are planned to have 200 feet of well screen.</p> <p>Please discuss why both filtered and non-filtered metals samples are planned, and why mercury is highlighted in line item 3.</p>	<p>a. There are no plans to sample the perched groundwater for two reasons. First, the core drilling will use water which will create erroneous perched water, and second, perched water should not be encountered in the injection well since it was grouted.</p> <p>b. Filtered metals samples will be collected and analyzed to support the characterization of dissolved metals in groundwater and compare the analytical results to EPA action levels, which are dissolved concentrations. Unfiltered metals samples will be collected and analyzed to acquire total metals results that may be used in evaluating risk. Mercury was inadvertently highlighted, and the text has been revised. The sample plan may be revised based on results.</p>

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OPERABLE UNIT 3-14 TANK FARM SOIL AND GROUNDWATER REMEDIAL INVESTIGATION/
FEASIBILITY STUDY WORK PLAN (DRAFT FINAL); DOE/ID-10676, REV. D, NOV 2000

DATE: November 2000

REVIEWER: IDEQ

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
				<p>Comparison of filtered vs. nonfiltered results helps identify potential man-made water sample contamination sources such as introduced well completion or pump-related materials.</p> <p>The text has been modified to reflect these two responses.</p>
15	Attachment B	Injection Well FSP, Tables 5-1, through 5-3, Pages 5-5 through 5-10	<p>b) The main text or an appendix should identify the analyte detection levels that will be used for this project. Review of the generic QAPjP reveals that there are various detection levels for CLP analyses (QAPjP Sections 1.4.6.1 and 1.4.6.2).</p>	Table 5-2 of the Injection Well FSP has been modified to specify Table 1-8 from the QAPjP for water samples.
16	Attachment B	Injection Well FSP, Appendix A, SAP table	<p>a) The groundwater SAP tables appear to suggest that duplicate groundwater samples will be collected for all except organic analyses. Please explain the rationale of this plan.</p> <p>b) Also, please explain why the organic analyses have multiple Analysis Type Codes (e.g., AT19 and AT20).</p> <p>Sections 4.4.2.1 and 4.4.2.2 indicate that MON-A-173 and MON-A-174 will be sampled using dedicated submersible pumps, rather than bailers.</p>	<p>a. Duplicate information for the organic analyses will be obtained from the matrix spike/matrix spike duplicate (MSms/MSDmsd) samples, where the sample is analyzed in triplicate.</p> <p>b. AT18 and AT19 are used only for the equipment rinsate blank samples; AT1 and T20 are the MS/MSD samples, which are not performed on the rinsate blank samples.</p> <p>The SAP table has been revised.</p>